



INVESTMENT OPPORTUNITIES

BETEN INTERNATIONAL

2013



About the company



Beten International is a **French engineering company** active in Ukraine and eastern Europe countries for **more than 20 years**.

The company's core expertise is focused on the development of **large-scale international industrial projects**.

It stands as both an engineering company and a local project developer working in partnership with international players. It is currently developing a **portfolio of wind, solar, biomass and hydro projects** in Ukraine, leveraging on the **very attractive green law** enforced in the country since 2009.

Beten is actively promoting Ukraine on the international level as **the new place to be** for high-potential renewable energy projects. It offers to international investors the opportunity to enter the Ukrainian market while benefiting from **a reliable local partner**.

www.beteninternational.com

www.betenenergy.com

Ukrainian RE Power Market



- Ukraine, an attractive “green tariff” :

	Wind	Solar ground
Feed in tariff	113 €/MWh	339 €/MWh

- Ukraine presents high natural resources in wind and solar. Setting the development of renewable energy as a strategic priority, Ukrainian government established an attractive “green tariff”. In 2009, this commitment has been written in the law, with the following warranties:
 - ✓ **FIT is warranted in euro-equivalent (no currency risk)**
 - ✓ **Obligation by the State to purchase all electricity produced at “green price” until 2030**
 - ✓ **The law ensures the connection in the electric system for producers of green energy**
 - ✓ **Attractive tax exemptions for Renewable Energy projects (VAT / CPT / Custom taxes).**



Capacity	30 to 130MW
Location	Odessa Oblast (Region) → Flat ground, one of the windiest region of Ukraine
Advancement stage	<ul style="list-style-type: none"> • Site selected, • SPV created, • preliminary study package done • Regional Plan of Territory on going
Wind resource	<ul style="list-style-type: none"> • Met mast in place since 05.10.2011 • THIES, equipment, monitored by Garrad Hassan ODM service. • Monthly wind reports available
Wind speed	<ul style="list-style-type: none"> • @80m 6.9m/s (15 months data) • @100m 7.2m/s (15 months data)
Political support	MoUs signed with Regional and District Administrations
Land	<p>Group of private owners, agricultural land:</p> <ol style="list-style-type: none"> 1. To be transferred to State Reserve Administration, 2. Modification of the purpose 3. Lease to the SPV
Environment	Absence of sensitive environmental zone
Access	<ul style="list-style-type: none"> • 32km from Odessa, • flat land, • well-developed infrastructure



- **Tariff: 11,31€cts/kWh**
- **Expected BP: 03/2014**

Connection	<ul style="list-style-type: none"> • 8km to 35/110kV substation • 9km to 35/220kV substation
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Met mast during installation



Met mast after installation



Capacity	60 to 170MW
Location	Odessa Oblast → Flat ground, one of the windiest region of Ukraine
Advancement stage	<ul style="list-style-type: none"> • Site selected, • SPV created, • preliminary study package done, • political support secured, • permit for met mast received Feb 2012 • Regional Plan of Territory on going
Wind resource	<ul style="list-style-type: none"> • Met mast in place in neighbor site KR (12km distant, similar flat land) since January 2012 • THIES, equipment, monitored by Garrad Hassan ODM service. • Monthly wind reports available
Wind speed estimates	<ul style="list-style-type: none"> • @100m: 7.3m/s (Met mast data on 18 months) • @100m: 7m/s (NASA service) • @80m: 6-7m/s (3TIER map)
Political support	MoUs signed with Regional and District Administrations
Environment	Absence of sensitive environmental zone
Land	Group of private owners, agricultural land. (Needs to be transferred to State Reserve Administration, purpose changed and then granted in lease to the SPV)



Met mast foundation

- **Tariff:**
11,31€cts/kWh
- **Expected BP:**
06/2014



Met mast after installation

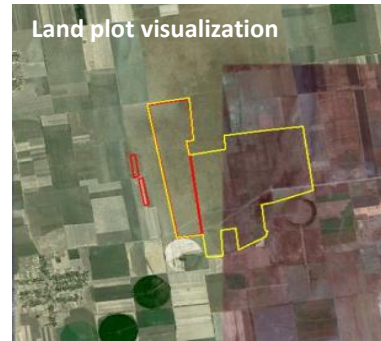
Access	<ul style="list-style-type: none"> • Flat land, • Well-developed infrastructure (international roads, seaports and railway connections)
Grid connection	<ul style="list-style-type: none"> • 8km to 35/110kV substation • 9km to 35/220kV substation • 8km to 110/330kV substation



Project site highlighted on an ESRI map



Capacity	30 to 75MW
Location	Kherson Oblast → Flat ground (the lowest level at the territory of Ukraine (50-60m above the sea level))
Advancement stage	<ul style="list-style-type: none"> • Site selected, • SPV created, • preliminary study package done, • political support secured, • met mast installed • Regional Plan of Territory on going
Wind resource	<ul style="list-style-type: none"> • Met mast in place since 03/2011 (22 months) • THIES, equipment, monitored by Garrad Hassan ODM service. • Monthly wind reports available • Indicative Expected Energy production ⁽¹⁾ : 223 316 MWh/year (34 % Capacity Factor) ⁽²⁾
Wind speed estimates	<ul style="list-style-type: none"> • @50m: 6m/s (NASA service) • @80m: 6-7m/s (3TIER map) • @100m: 7.3m/s (Met mast data on 18 months)
Political support	MoU signed with Regional Administration
Land	Reserve lands (simplified procedure) and agricultural lands <ul style="list-style-type: none"> • To be transferred to State Reserve Administration, • Modification of the purpose • Lease to the SPV



Access	<ul style="list-style-type: none"> • Flat land, • Well-developed infrastructure
Grid connection	≈ 10,5km from 35/110kV
Environment	Absence of sensitive environmental zone

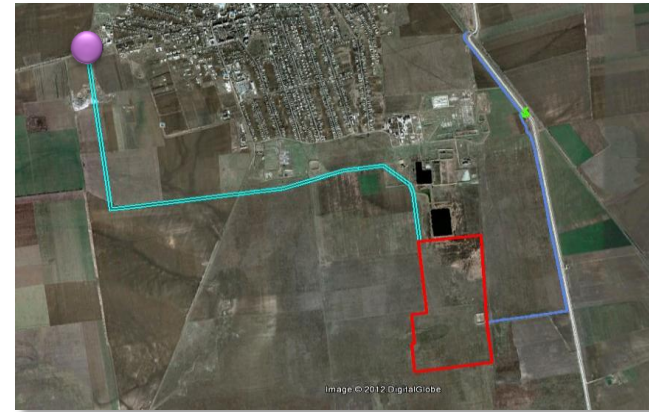
➤ **Tariff:**
11,31€cts/kWh

➤ **Expected BP:**
09/2013

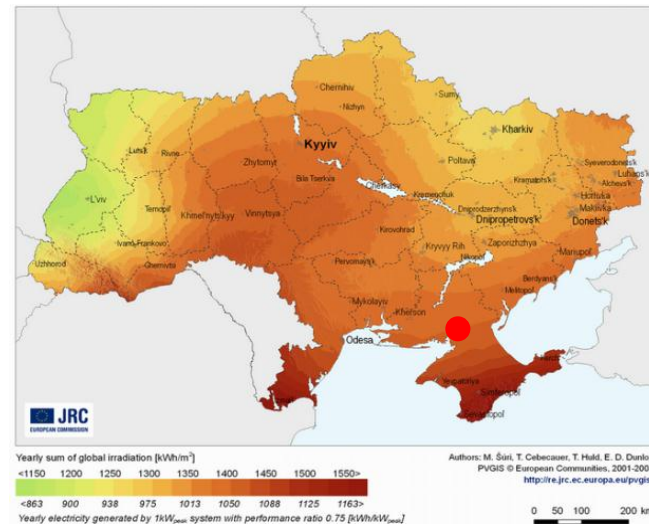
- 1) Non long term correlated, 10 months on site wind measurement
- 2) Using 25 VESTAS V112 Wind Turbine



Capacity	5,7MW – SHOVEL READY
Location	Kherson Oblast <ul style="list-style-type: none"> Flat ground, 2 km from the village, non urbanized land
Advancement stage	<ul style="list-style-type: none"> Detailed Plan Territory approved, Land plot and servitudes contracts registered in the cadastre, Technical Conditions approved for 5,7 MW.
Solar resource	<ul style="list-style-type: none"> Annual electricity production: 1240 kWh/kWp Annual global irradiation received: 1630kWh/sqm (Source: PVGIS © European Communities, 2001-2010)
Political support	MoUs signed with Regional Administration Other projects developed by BETEN in the district - good relations with the administration.
Land	Land Plot is 106 Ha, the contract is 49 years lease with district administration for 3,2 K€ /month.
Access	Servitude contracts for Road and OHL secured.
Grid connection	Technical Condition obtained for 5,7 MW ≈ 6 km from 10/35/110kV substation. Cost of connection estimated 1,1 MK€.
Environment	Absence of sensitive environmental zone



- **Tariff: 33,9 cts/kWh**
- **Status : SHOVEL READY**



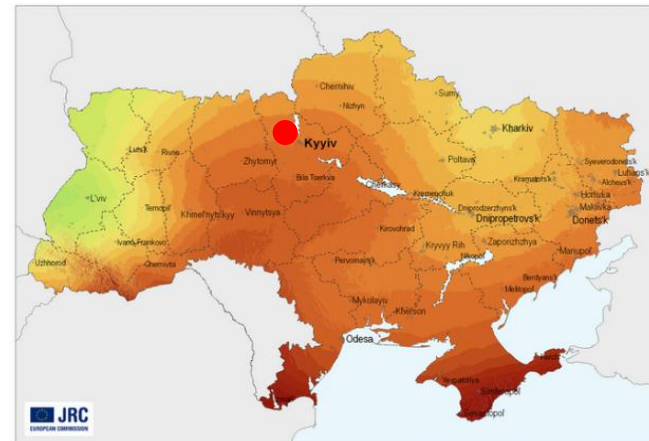
Project location on Ukrainian map



Capacity	5,0 MW – SHOVEL READY
Location	Kiev Oblast → Flat ground, 1-2 km from the village, non urbanized land
Advancement stage	<ul style="list-style-type: none"> • Detailed Plan Territory approved, • Land plot and servitudes contracts registered in the cadastre, • Technical Conditions approved for 5+5+15 MW.
Solar resource	<ul style="list-style-type: none"> • Annual electricity production: 1000kWh/kWp • Annual global irradiation received: 1320kWh/sqm (Source: PVGIS © European Communities, 2001-2010)
Political support	Other projects developed by BETEN in the district - good relations with the administration
Land	Land Plot is 11 Ha, the contract is 49 years lease with district administration for 1,0 K€ /month.
Access	Convenient access
Grid connection	Technical Condition obtained for 5+5+15 MW ≈ 0,1 km from 10/35/110kV substation.
Environment	Absence of sensitive environmental zone



- **Tariff: 33,9 cts/kWh**
- **Status: SHOVEL READY**



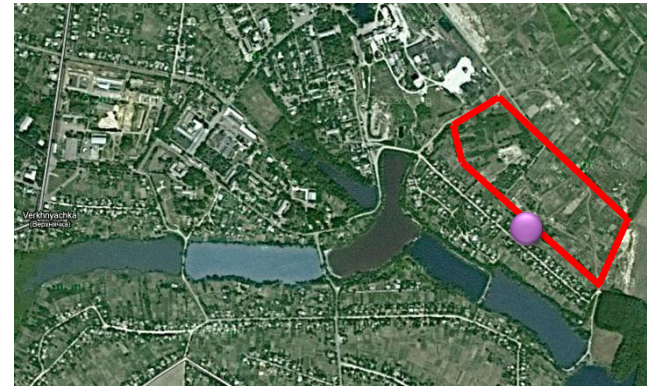
Yearly sum of global irradiation [kWh/m²]
 <1150 1200 1250 1300 1350 1400 1450 1500 1550>
 <863 900 938 975 1013 1050 1088 1125 1163>
 Yearly electricity generated by 1kW_{nom} system with performance ratio 0.75 [kWh/kW_{nom}]

Authors: M. Štírl, T. Cebecauer, T. Hald, E. D. Dunlop
 PVGIS © European Communities, 2001-2008
<http://re.jrc.ec.europa.eu/pvgis/>

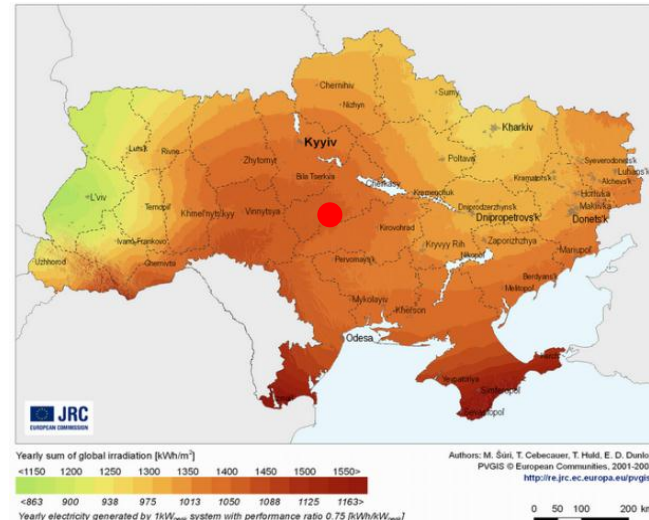
0 50 100 200 km



Capacity	7,0 MW – SHOVEL READY
Location	Cherkasskaya Oblast <ul style="list-style-type: none"> • Flat ground, 0,3 km from the village, urbanized land
Advancement stage	<ul style="list-style-type: none"> • Detailed Plan Territory approved, • Land plot and servitudes contracts registered in the cadastre, • Technical Conditions approved for 7 MW.
Solar resource	<ul style="list-style-type: none"> • Annual electricity production: 1060kWh/kWp • Annual global irradiation received: 1390kWh/sqm (Source: PVGIS © European Communities, 2001-2010)
Political support	Other projects developed by BETEN in the district – good relations with the administration
Land	Land Plot is 15 Ha, the contract is 49 years lease with district administration for 0,5 K€ /month.
Access	Convenient access
Grid connection	Technical Condition obtained for 7 MW ≈ 0,15 km from 10/35 kV substation. Cost of connection estimated 1,2 M€
Environment	Absence of sensitive environmental zone

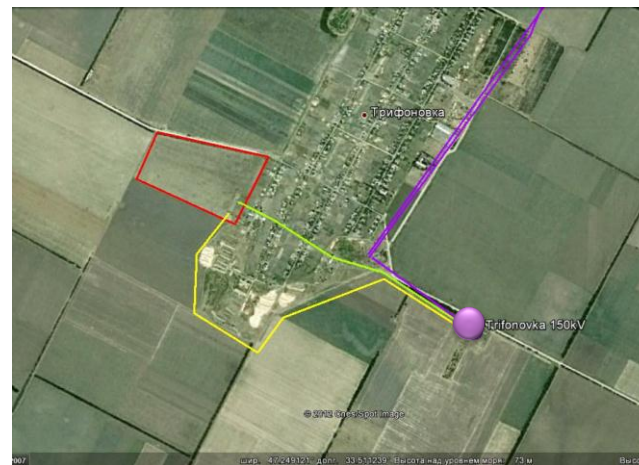


- **Tariff: 33,9 cts/kWh**
- **Status: SHOVEL READY**

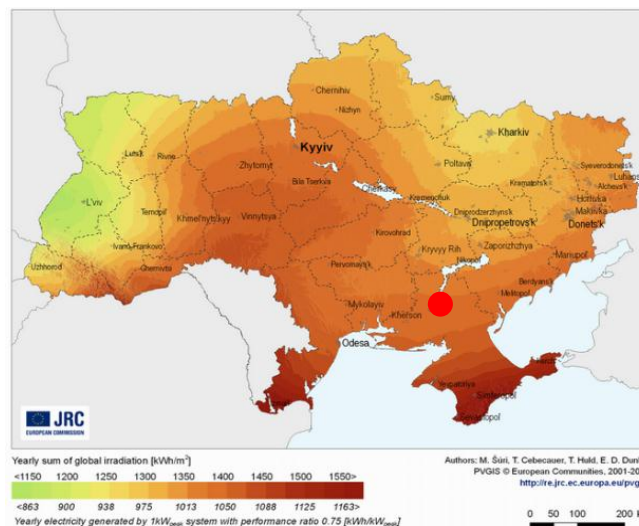




Capacity	10MW – 4 Months from Building Permit
Location	Kherson Oblast → Flat ground, 1-2 km from the village, non urbanized land
Advancement stage	<ul style="list-style-type: none"> • Detailed Plan Territory approved, • SPV created, • preliminary study package done.
Solar resource	<ul style="list-style-type: none"> • Annual electricity production: 1140kWh/kWp • Annual global irradiation received: 1510kWh/sqm <p>(Source: PVGIS © European Communities, 2001-2010)</p>
Political support	MoUs signed with Regional Administration Other projects developed by BETEN in the district - good relations with the administration
Land	Land assessment started November 2011. Located on reserve lands (pastures, strong advantage which simplifies the land procedure).
Access	Convenient access
Grid connection	No competitors in the vicinity ≈ 2,7 km from 10/35/110kV substation Preliminary grid connection study done Estimated cost of connection is 1,1 M€.
Environment	Absence of sensitive environmental zone

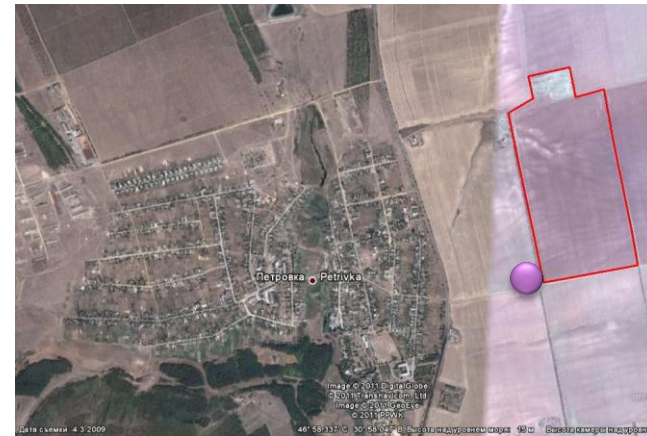


➤ **Tariff: 33,9 cts/kWh**
➤ **Expected BP: 08/2013**



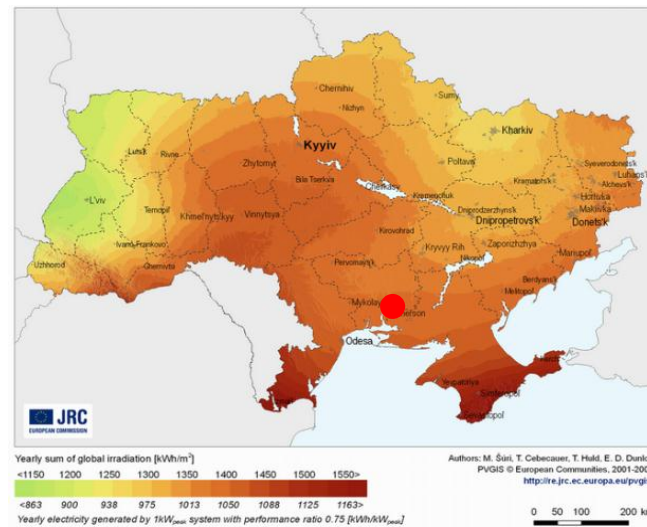


Capacity	5 to 30MW 9 Months form building Permit
Location	Odessa Oblast Flat ground
Advancement stage	<ul style="list-style-type: none"> • Site selected, • SPV created, preliminary study package done, including geology , hydrogeology studies and preliminary interconnection study. • Regional Plan of Territory on going
Solar resource	<ul style="list-style-type: none"> • Yearly electricity production: 1170kWh/kWp • Yearly global irradiation received : 1530kWh/sqm <p>(Source: PVGIS © European Communities, 2001-2010)</p>
Political support	MoUs signed with Regional Administration Other projects developed by BETEN in the district - good relations with the administration
Land	Located on reserve lands (pastures, strong advantage which simplifies the land procedure)
Access	Easy access to the site due to large amount of roads
Grid connection	<p>No competitors in the vicinity</p> <ul style="list-style-type: none"> • 0km from 35/110kV substation, • Preliminary grid connection study done • Cost of connection estimated 2,3 M€ for 30 MW.
Environment	Absence of sensitive environmental zone



Land plot visualization

- **Tariff: 33,9 €cts/kWh**
- **Expected BP: 11/2013**



Project location on Ukrainian map

CONTACT



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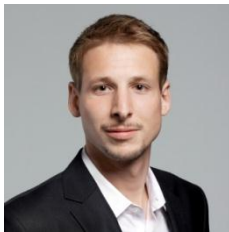


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